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ABSTRACT

This research report is the first extensive follow-up which the North Carolina Advancement School has conducted on former students. The School, a residential school for underachievers, was established to conduct research into the causes and possible remedies of underachievement. The subjects, eighth-grade boys, attended the School in Spring 1968. The followup study was designed to determine what effect the Advancement School experience had on school performance the following school year. Some of the results are: (1) half of the subjects were achieving better grades; (2) no differences were found in intelligence of achievement levels; and, (3) some changes were noted in attitudes. For related reports, see UD 011 076-077 and 011 079-081. (Author/JW)

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A RESEARCH REPORT OF

THE NORTH CAROLINA ADVANCEMENT SCHOOL:

SPRING SEMESTER, 1968 FOLLOWUP

Submitted to the Board of Governors and the
North Carolina State Board of Education

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Winston-Salem, North Carolina

November, 1969

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INTRODUCTION

The North Carolina Advancement School, a residential school for underachievers, was funded in 1967 by the state of North Carolina for the purpose of conducting research into the causes and possible remedies of underachievement. Data have been collected and analyzed on several hundred boys from grades four through eight in an attempt to learn more about the underachiever and his learning difficulties.

The Advancement School program has effected some positive changes in the attitudes, behavior, and academic performance of students enrolled at the school. Pre- and post-test measurements were analyzed and results reported in comprehensive research studies issued by the Advancement School at the conclusion of each term. Yet, despite the apparent success of the program, true effectiveness could not be established unless the positive learnings by students continued when they returned to their homes and reentered the regular public schools.

The present study is the first extensive follow-up which the Advancement School has conducted on former students. The subject of this study was the group of 108 eighth-grade boys who attended the opening term of the Advancement School from January - May, 1968. The follow-up was designed to determine what effect the Advancement School experience had on their

school performance during the year after their return home. The data on which this report was based were obtained in May, 1969, approximately one year after this group of students completed their stay at the Advancement School.

This study is presented in four sections. Section I contains a summary of the program of the Advancement School during the 1968 Spring term as well as a summary of the findings of the research conducted during that term. Section II describes the design of the follow-up study and defines the study groups. Section III contains a description of each measure obtained in the followup and the results of these measures. Section IV is a summary of the findings of the follow-up study, conclusions drawn from these findings, and recommendations. An Appendix is included which contains additional material relevant to the follow-up as well as copies of questionnaires and interview forms used in obtaining the data.

I. INSTRUCTIONAL AND RESEARCH PROGRAM SPRING 1968

North Carolina Advancement School Instructional Program, Spring, 1968. The instructional program for Advancement School residential students consisted of three basic parts:

1. A humanities block of time which emphasized the role of counseling in the teaching process and in which learning experiences were designed around the actual problems of concern to the students.
2. A learning center incorporating the teaching of reading, mathematics, and study skills.
3. An exploratory curriculum which incorporated science music, art, industrial arts, physical education, and exploratory mathematics.

Each student attended a humanities block with seventeen other boys in his group or "house." When the counselor and other faculty members were successful in helping the student realize his need for instruction in a skill area, the student was then referred to the learning center. Each student was also allowed to choose three subjects from the exploratory curriculum. An extensive intramural and recreational program was also provided for students.

Some highlights of the Advancement School program are summarized below:

1. The emphasis of the Advancement School program was on the role of counseling as a means of helping a student recognize, accept, and begin to work toward solving his problems, both emotional and academic. A non-directive approach was used by counselors in both individual and group counseling with students. Until the student was able to recognize the need for work in a skill area, he was not required to undertake the study of that area. Teachers and other staff members served as resource persons in the counseling process.
2. The instructional program was individualized to allow each student to work at his own pace in whatever area he was studying. Classes were small and teachers could work with each student individually when necessary. There was no attempt made to cover a certain amount of material; instruction was dictated by the student rather than the teacher. The instructional day was flexible and students were able to work for indefinite periods of time in one area if they wished.
3. Because the Advancement School program was residential, learning experiences could be continued through supervised activities after the regular school day. Parental

pressure believed to be a factor contributing to under-achievement was virtually eliminated for residential students.

4. Throughout the student's stay, efforts were made to provide him with opportunities for success. Improvement of self-concept was a goal of all staff members in working with a boy, both during the instructional day and during after-school programs. The smallest successes of a student were praised; his failures, discussed, but not punished.

5. Emphasis was given to helping the student develop responsibility for his own learning. No student was forced to attend a class; there were no bells signaling the beginning or end of a class--students attended by choice. No grades were given any student in any class; however, students were regularly informed of their progress or lack of progress, so they could see the results of their efforts.

Research Conducted During the 1968 Spring Term. In order to compare Advancement School students with regular public school students, a control group of 96 boys was composed of applicants who had been qualified for admission to the school, but because of space limitations, could not be accepted. This control group was given the same pre-post

measurements in aptitude, achievement, and study skills.

The research of the Advancement School concerned three basic areas: collection of data relative to the phenomenon of underachievement; collection of data to provide a comparison between the program offered Advancement School students and that offered by public schools to similar students; and the collection of data to establish a profile describing boys labeled underachievers.

The results of this research are presented in the North Carolina Advancement School Research Report, Spring 1968.[1] There were no significant differences between residential and control students in achievement or study methods on comparison of pre-post data. Residential students showed significant gain in only one area--verbal intelligence.

Residential students were administered pre and post measures in self-concepts and attitudes and were also administered a psychological inventory during their enrollment. Statistical analysis produced trends indicating that in the areas of self-concept and attitudes, Advancement School students made some improvement during their stay. A particularly interesting finding was that Advancement School students were better able to accept responsibility for successes or failures at the end of the term than at the time of their entrance.

A profile of the underachiever was drawn using results of testing on both residential and control students. The underachiever was thus described as having poor study habits, apathetic and uncomfortable in social situations, impulsive in behavior, lacking in positive self-concept, tending to exhibit an inability to carry through solutions to problems while evidencing the ability to arrive at rather creative solutions. As could be expected, the underachiever was found to be alienated from school and school-related activities.

In summary, the research carried out during the Spring 1968 term with eighth-grade boys indicated that the Advancement School program helped residential students as a whole, to develop more positive attitudes and behavior although there was little evidence of improved academic performance when compared to the control group. It was the assumption of the Advancement School that positive attitudinal and behavioral changes which had been effected would continue upon return to the home school and would result in improvement in academic areas.

II. DESIGN AND METHODS OF FOLLOW-UP

The follow-up study was designed to answer the following basic questions about the students who attended the 1968 Spring Term of the North Carolina Advancement School:

1. What effect did the Advancement School program have on those students who showed positive changes in behavior, attitudes, and academic progress during their attendance?
2. What effect did the Advancement School program have on those students who did not appear to undergo positive changes during their stay at the Advancement School?
3. How did these two groups of Advancement School students perform after their return home when compared to a control group?

To determine the answers to these questions, the following information was necessary: grades, attendance, and participation in school activities; current problems expressed by the students; observations of their behavior and attitudes; educational expectations of the students as expressed by their school counselors, their parents, and themselves; and their parents' perceptions of their attitudes toward school.

Adequate information in all these areas could not be

obtained by mail; therefore, data were obtained through interviews. North Carolina Advancement School staff members were assigned to interview each boy included in the study as well as his school counselor. Because of limited time for staff visits, parents were not interviewed but were mailed questionnaires.

Study Groups. Three groups of students were selected for the follow-up: twenty students who appeared to have benefited from the Advancement School program; twenty students who did not appear to have benefited from the program; and forty control students.

For the two experimental groups, the following method of selection was used:

At the conclusion of the 1968 spring term, the faculty members of the Advancement School rated each boy in attendance to determine potential participants in a summer leadership program. The rating was essentially the opinion of faculty members as to which students best responded to the Advancement School program. (See the Appendix for a complete description of the criteria used for rating and a further explanation of the leadership program.) The twenty students who received the highest ratings by faculty members were selected for follow-up. They were designated for purposes of this study

as "NCAS Leaders." This group of students may be briefly described as those students who interacted well with both their peers and adults, who were honest and responsible and who adapted well to the Advancement School program. They were not necessarily those students who made the most progress academically.

From the students who received no votes on the rating by faculty members, twenty were randomly selected to compose the second experimental group; i.e., those students who did not show positive changes during the course of their stay at the Advancement School. This group was designated "NCAS Non-Leaders," and are referred to by this term throughout this study.

The forty control students were selected randomly from the original control group of 96 boys.

Advancement School staff members visited the school of each student in the three study groups. Each boy was interviewed and was administered the Mooney Problem Check List and the Intellectual Achievement Responsibility (IAR) Scale. Staff members then interviewed the counselor, principal, or teacher of the school to determine the student's school progress during the year. Questionnaires mailed to parents asked for parents' perceptions of their son's attitudes toward school

and their educational expectations for him. Each measure which was obtained is described in more detail in the presentation of results.

III. RESULTS OF THE STUDY

Grades. To measure academic performance, grades for the school year 1968-69 were obtained from schools for all students in the three study groups. First semester and mid-term second semester grades for all courses were compiled on each student. A grade point average was then computed by assigning each grade a numerical value: A = 4; B = 3; C = 2; D - 1; E or F = 0. Mean grade point averages were then obtained for each student. Results are presented in Table 1.

Table 1. Mean Grade Point Averages for 1968-69 School Year

Group	No.	Mean Grade Point Ave.	S.D.
NCAS Leaders	17	1.85	.625
NCAS Non-Leaders	19	1.35	.678
Controls	36	1.58	.658

An analysis of variance showed a difference significant at the .10 level, with NCAS leaders having a higher grade point average than control students, and NCAS non-leaders having the lowest grade point average.

This finding is of particular interest when grades prior to entrance at the Advancement School were considered. A grade point average was computed for these same students using grades for the

first semester of the 1967-68 school year, the semester immediately preceding enrollment at the Advancement School for experimental students. Results of these data are compared with data obtained on the followup in Table 2.

Table 2. Comparison of Grade Point Averages for Term Preceding Enrollment and for Followup Period.

Group	No.	G.P.A. Followup	G.P.A. Pre-Entrance
NCAS Leaders	17	1.85	1.37
NCAS Non-Leaders	19	1.35	1.42
Controls	36	1.58	1.47

The three groups had very similar grade point averages for the term preceding enrollment, with NCAS Leaders having slightly lower grade point averages than non-leaders and controls.

Summary. NCAS Leaders were doing significantly better academically than controls and NCAS non-leaders when grades since their return to their home schools were considered. Since the three groups of students were making almost identical grades prior to enrollment in the Advancement School, the Advancement School program can be said to have brought about improved grades among NCAS Leaders. NCAS Non-leaders, however, were not performing as well as control students.

Absences. The number of absences of each student in the three study groups was determined from information provided by the school at the time of the student's interview. In listing absences, both excused and unexcused were included. Results are given in Table 3 for the period September 1968 - March, 1969.

Table 3. School Absences

Group	No.	Mean Absences	S.D.
NCAS Leaders	16	4.23	4.83
NCAS Non-Leaders	18	9.00	13.04
Controls	35	8.85	9.97

These results indicate that leaders attended school more regularly than controls or non-leaders, although not to a significant degree.

Summary. NCAS leaders had fewer absences from school than controls or NCAS non-leaders since their return home.

Responsibility for Learning: The Intellectual Achievement Responsibility Scale (IAR): The IAR Scale was administered by Advancement School staff members at the time of the follow-up interview. This scale is designed to determine how well the student accepts responsibility for his own learning--both his successes and his failures. A higher score indicates more acceptance of responsibility while lower scores indicate lack of responsibility. Underachievers generally score in the low to mid-twenties on the total scale, which has a possible total of 34.

Means and Standard deviations for the IAR Negative, Positive, and Total scores are given in Table 4.

Table 4. A Comparison of IAR Negative, Positive, and Total Scores

Group	No.	Mean Negative Scores	S. D.	Mean Positive Scores	S. D.	Mean Total Scores	S. D.
NCAS Leaders	19	12.68	2.96	13.58	2.24	26.42	3.50
NCAS Non-Leaders	17	12.11	3.28	11.89	2.68	24.00	5.12
Controls	36	12.64	2.50	11.97	2.86	24.82	4.32

An analysis of variance showed a difference significant at the .10 level on positive scores -- that is, in acceptance of responsibility for successes. NCAS leaders were more able than the other two groups to accept responsibility for successes

in school-related activities. Non-leaders and controls scored approximately the same in this measure. No differences were found in measuring responsibility for failures (Negative scores).

Analysis of variance showed no significant differences on the total scale; however, NCAS leaders did show a higher degree of responsibility for learning than did non-leaders or controls.

Summary: The follow-up revealed that NCAS leaders accepted responsibility for their successes and failures in school more than either controls or non-leaders. Of particular significance was the ability of NCAS leaders to accept responsibility for their own successes.

Behavior: North Carolina Advancement School Student Behavior Inventory: Did the positive behavioral changes observed in students attending the Advancement School, particularly the NCAS leader group, continue upon their return to their home school? In order to determine the answer to this question, a scale designed by the Advancement School on the basis of research findings about behavior of underachievers was completed by each teacher of the students in the three study groups. (For a complete description of the scale, see the Appendix). For the analysis, ratings of teachers of Mathematics, English, and Physical Education were used. If one of these was not available, another teacher's rating was chosen at random from those completed on each student. The three ratings were scored separately and a mean score was then computed from these.

Items on the Student Behavior Inventory are designed to determine the degree to which a student exhibits the following behavior characteristics: Passivity, Hyperactivity, Anxiety, Dependence, Aggressiveness, and Poor Work Habits. The higher the score, the more extreme is the student's behavior in the area being measured. Results of this measure are presented in Table 5.

TABLE 5. COMPARISON OF RESULTS ON N.C.A.S. STUDENT BEHAVIOR INVENTORY

Behavior Category	NCAS Leaders (N = 19)		NCAS Non-Leaders (N = 18)		Controls (N = 32)	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Dependence	8.32	3.94	9.89	3.46	9.81	3.19
Aggressiveness	6.16	2.52	8.58	4.11	7.55	3.03
Poor Work Habits	8.95	4.47	11.79	4.63	11.55	4.77
Passivity	8.89	3.54	11.32	3.68	10.94	3.41
Hyperactivity	7.21	2.99	9.79	4.17	10.16	4.40
Anxiety	8.05	2.61	8.21	2.07	7.19	2.64
Total	47.21	18.18	59.42	17.10	57.06	17.01

Analysis of variance showed that NCAS leaders scored better than controls and NCAS non-leaders in all categories except Anxiety. Differences were statistically significant in three categories--Aggressiveness (significant at .10 level); Passivity (significant at .10 level); and Hyperactivity (significant at .05 level.)

On total Behavior, a difference significant at the .10 level was revealed in favor of NCAS leaders.

Summary: The North Carolina Advancement School Student Behavior Inventory was used to assess whether or not any differences existed in the behavior of the three study groups. According to the ratings of classroom teachers in the students' home schools, the NCAS leader group showed less extreme behavior than did the control group or the NCAS non-leaders. In analyzing the behavior characteristics believed to be common to underachievers, the NCAS leader groups scored significantly better than the other groups in three of the six behavior categories-passivity, hyperactivity, and aggressiveness. In the other three categories -- anxiety, dependence, and work habits, no significant differences were found, although NCAS leaders scored slightly better in dependence and work habits than did the other two groups. In only one category -- anxiety -- did the control student surpass NCAS leaders (the difference

in this category was not significant.)

Results obtained from the Student Behavior Inventory appear to support the hypothesis that the changes in behavior on the part of Advancement School students do continue upon their return to the home school. The results also lend credence to the conclusion of the school that behavior changes lead to academic change, since the NCAS leaders scored higher than the other groups in both behavior and grades.

Mooney Problem Check List: The Mooney Problem Check List was administered by NCAS staff members at the time of the interview. The student checked on a list those problems which he was experiencing. The checklist thus provided for this study the numbers of problems admitted to by the three groups of students. The total number of problems was used for this study as well as an analysis of two particular areas of concern -- school problems and home and family problems.

Results of the Mooney Problem Check List are presented in Table 6.

Table 6. Number of Problems of Students as Marked on Mooney Problem Check List

	NCAS Leaders (N = 19)		NCAS Non-Leaders (N = 15)		Controls (N = 37)	
	X	S.D.	X	S.D.	X	S.D.
School Problems	7.58	5.97	9.18	5.10	8.17	5.32
Home and Family Problems	2.53	2.74	3.65	4.58	2.77	3.24
Total Problems	31.00	25.11	62.65	127.18	29.14	18.68

NCAS leaders expressed fewer problems than the other two groups, in the area of school and Home and Family Problems, although the difference was not statistically significant. However, the control group checked fewer problems on the check list as a whole. The results on the total checklist were not significant because of the large standard deviation.

Summary: No significant differences were noted among the three sample groups in the numbers of problems to which the boys admit concern. The control students showed fewer problems on the checklist as a whole, whereas NCAS leaders showed fewer problems in the areas of school and home and family problems.

Discussion of Problems: Do former Advancement School students more willingly seek help from school counselors with their problems? This question was posed to the home school counselor of each boy in the three groups by the NCAS staff member visiting that school, in the following manner:

1. Has the boy discussed any problems with you during the 1968 - 69 school year?
2. If so, did he come voluntarily or was he sent to you by another teacher or school official?

Answers were recorded as yes or no on each student. Table 7 contains a comparison of results of this information.

Table 7. Analysis of Conferences with School Counselor

	NCAS Leaders (N = 19)	NCAS Non-Leaders (N = 18)	Control (N=37)
Has discussed problems with Counselor one or more times	6	12	22
Has sought out counselor voluntarily only	4	8	10
Has discussed problems with counselor only as result of being sent	0	3	9
Has discussed problems with counselor as result of combination of being sent in one or more instances and on voluntary basis in one or more instances	2	1	3

Summary: No significant differences were shown among the groups in their willingness to discuss problems with counselors. Experimental students did not appear to be any more willing to discuss their problems than did control students. One rather encouraging finding, however, was that no member of the NCAS leader group was among the students who had seen counselors only as a result of being sent by someone else, while three non-leaders and nine controls fell into this category.

Participation in Extracurricular Activities. An attempt was made to determine whether any differences existed in the numbers of extracurricular activities in which the three study groups participated. At the time of the interview, school counselors were asked to name any activities in which the student participated. Results of this information are presented in Table 8.

Table 8. Participation in Extracurricular Activities

Group	No.	Mean Number of Activities	S.D.
NCAS Leaders	18	.78	1.40
NCAS Non-Leaders	18	.32	.48
Controls	36	.69	1.08

No significant differences were found when comparing participation in extracurricular activities; however, the NCAS leaders again headed the three study groups in this area.

Summary. The Advancement School experience does not appear to have had any effect on whether or not students participate more fully in school-related activities, although NCAS leaders were slightly ahead of other groups in this measure.

Parental Perception of Attitudes: Parents were asked through a mail questionnaire, what they perceived to be their son's attitude toward school, teachers, and homework. Parents were asked to indicate their son's attitude by marking one of three choices: positive, neutral, or negative. Results of this part of the study are contained in Table 9.

Table 9. Parental Perception of Student Attitudes Toward School, Teachers, and Homework

	NCAS Leaders	NCAS Non-Leaders	Control
Attitudes toward School			
Positive	8	4	9
Neutral	8	7	18
Negative	2	3	1
Attitudes toward Teachers			
Positive	8	5	15
Neutral	10	8	12
Negative	0	1	1
Attitudes toward Homework			
Positive	6	4	7
Neutral	7	5	7
Negative	5	5	14

To obtain some measure of total attitudes, the three categories were combined with a number value assigned as follows: for positive, 3; for neutral, 2; and for negative, 1;. A total score was then computed for each student, with results as given in Table 10.

Table 10. Parental Perception of Student's Total Attitudes Toward School

Group	No.	Total Attitudes $\bar{X}$	S.D.
NCAS Leaders	18	7.89	1.53
NCAS Non-Leaders	14	6.94	2.38
Control	28	7.35	1.98

Summary. Although there were no significant differences between the three groups, NCAS leaders were felt by parents to possess slightly higher attitudes toward school as a whole. Attitudes toward homework were also in favor of the NCAS leader group.

Parental Perception of Responsibility: Parents were asked, again through mail questionnaire, whether they saw their sons as being responsible for their successes and failures in the school situation. Responses are tabulated in Table 11.

Table 11. Parental View of Acceptance of Responsibility for Learning.

	NCAS Leaders	NCAS Non-Leaders	Controls
Accepts Responsibility for Successes	9	10	15
Does Not Accept Responsibility for Successes	5	4	13
Accepts Responsibility for Failures	12	13	25
Does not Accept Responsibility for Failures	2	3	3

Summary: No significant differences were shown among the three groups in parents' perception of their sons' acceptance of responsibility for successes or failures.

Educational Expectations. Each boy was asked at the time he was interviewed by the NCAS staff member what educational plans he had for his future. The school counselor, or person who best knew the student at school, was asked what he felt would be the appropriate future plans for the boy. The boy's parents were also asked what plans they had for their son's future education.

Results of these data are presented in Table 12.

Table 12. Comparison of Educational Expectations for Students

Responses of Students	NCAS Leaders	NCAS Non-Leaders	Controls
Drop out before completing high school	0	1	1
Complete High School (no post-high school education planned)	4	6	20
Attend technical or trade school after high school	0	3	3
Attend College	9	3	9
Responses of School Counselor			
Drop out	0	1	3
Complete High School Only	3	7	13
Technical or Trade School	4	2	16
College	9	3	6

Continued on the following page

Responses of Parents	NCAS Leaders	NCAS Non-Leaders	Controls
Drop Out	0	0	0
Complete High School Only	1	6	5
Technical or Trade School	2	5	5
College	10	3	15

Summary: Anticipated dropouts included no NCAS leaders, one non-leader, and one control, according to answers of the boys themselves. School officials were less optimistic about the control students, stating that three boys would drop out. In addition, school officials had doubts about several other boys in the NCAS non-leader and control groups, but these doubtful cases were not included among dropouts.

The greatest difference in responses occurred between parents' expectations and the expectations of school officials. Parents, as might be predicted, had greater expectations of their sons attending college than did the schools or the boys themselves. This was particularly true among boys in the control group. Nine boys in this group stated they expected to attend college; while school officials predicted that only six of these boys would attend college.

Again NCAS leaders lead the three groups in future educational plans. Nine of the thirteen boys answering this question indicated that they planned to attend college. Both school officials and parents verified these plans as appropriate.

Further Comparisons of NCAS Leaders and NCAS Non-Leaders. Since students identified as NCAS Leaders appeared to respond more favorably to the Advancement School program than did the group identified as NCAS Non-Leaders, studies were done to determine more about the characteristics of these two groups at the time of entrance and to look further at the results of testing on the two groups at the conclusion of their stay. Through these additional studies it might be possible to identify the factor or factors which determined the positive or negative response to the Advancement School program.

Pre-Test Comparisons. The first study was an analysis of data to determine what differences, if any, existed at the time the students entered the Advancement School. Results of this analysis are contained in Table 13. No differences were found in a comparison of pre-test scores of NCAS Leaders and NCAS Non-Leaders in verbal, non-verbal, or total intelligence; study skills; or in attitudes toward home and school. Differences (statistically not significant) were revealed in only one achievement area--arithmetic computation--with NCAS Leaders scoring higher than NCAS Non-Leaders. As was pointed out earlier in this study, there were no differences in the grades of these two groups of students prior to their entrance. Thus in aptitude, ability, achievement levels, and study skills, the two groups were on an almost identical level.

The most interesting finding in the study of these two groups at the time of entrance was the results of the IAR Scale pre-test. On this

Table 13. COMPARISON OF NCAS LEADERS AND NCAS NON-LEADERS ON PRE-TEST VARIABLES

Variables	NCAS Leaders (N=18)		NCAS Non-Leaders(N=]	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Achievement (Raw Scores):				
Paragraph Meaning	24.3	10.1	22.6	11.1
Language	84.3	8.3	81.7	12.6
Arithmetic Computation	10.9	3.8	8.6	3.6
Arithmetic Application	10.8	4.4	10.5	3.5
Intelligence (Raw Scores):				
Verbal	42.3	10.9	44.2	11.7
Non-Verbal	41.3	9.7	39.3	10.2
Total	41.6	8.8	41.6	10.2
Study Methods (%ile Scores):				
Attitude	27.1	6.1	24.8	7.0
Mechanics	34.2	7.2	31.5	8.0
Planning	16.4	5.4	14.9	4.5
IAR Scale:				
Positive	13.2	2.3	12.3	2.6
Negative	12.7	1.6	11.1	2.0
Total	25.8	3.5	23.4	3.5
Semantic Differentials:				
Me at School	41.6	6.0	38.7	7.7
Me at Home	41.4	8.2	43.7	8.4
Me at Play	46.6	6.9	47.1	6.0
Teachers	42.0	9.8	44.7	7.6
Rules	41.2	9.0	43.5	8.5
Ideal Self	53.0	4.1	52.3	3.5
N.C. Advancement School	41.9	10.5	43.7	9.9
California Psychological Inventory (T scores):				
Dominance	40.8	8.5	43.5	12.2
Capacity for Status	37.8	6.6	36.5	8.7
Sociability	45.2	7.5	43.1	9.1
Social Presence	42.9	11.0	43.3	7.6
Self-Acceptance	51.1	12.2	48.1	10.6
Sense of Well-Being	27.7	18.1	16.3	14.0

Table 13. Continued

Variables	NCAS Leaders (N=18)		NCAS Non-Leaders (N=	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
California Psychological Inventory (continued)				
Responsibility	33.2	10.4	29.5	12.4
Socialization	42.3	13.2	36.3	8.3
Self-Control	39.2	9.0	35.4	9.0
Tolerance	30.1	9.8	30.2	9.6
Good Impression	42.1	6.3	41.7	9.0
Communality	31.2	22.8	24.3	24.0
Achievement via Conformance	36.6	11.9	32.2	12.9
Achievement via Independence	34.9	7.9	37.7	7.7
Intellectual Efficiency	28.7	13.6	26.9	10.1
Psychological Mindedness	41.7	9.9	44.5	7.9
Flexibility	47.1	13.3	46.2	10.4
Femininity	51.8	8.8	46.3	15.7

scale the NCAS Leaders scored higher on the negative scale; i.e., they felt more responsible than NCAS Non-Leaders for the failures they experienced in school. NCAS Leaders scored 12.7 on the pre-test and NCAS Non-leaders scored 11.1, a difference significant at the .02 level. There were no differences in positive scores (those indicating responsibility for successes).

The scores of these two groups on the IAR Scale at the time of the followup offer an interesting contrast: At the time of the followup NCAS Leaders scored significantly better (.10 level) than NCAS Non-leaders on the IAR Positive scale; that is, in acceptance of responsibility for successes, while acceptance of responsibility for failures (negative scale) remained about the same as at the time the two groups entered the Advancement School. The NCAS Leaders thus showed in the followup a definite growth in their ability to accept responsibility for their own learning, a growth which was not evidenced by the NCAS Non-leaders.

These data revealed only one factor which may have had some role in determining response to the Advancement School--the degree of acceptance of responsibility for learning. The changes which occurred among NCAS Leaders appeared to be the result of their experience at the Advancement School.

Pre-Test Post-Test Comparisons. What measurable differences were there in the responses of the two groups to the Advancement School experience? In what particular aspects of the program did the NCAS Leaders show this difference? Further analyses of test data were made

to determine changes which occurred among NCAS Leaders as compared to NCAS Non-Leaders between the time they entered the Advancement School and the time they returned home. Results are presented in Table 14.

Significant differences were found in two areas. In attitudes toward teachers, NCAS Leaders scored higher (40.59 as compared to 33.35 for Non-Leaders), a difference significant at the .01 level. In attitudes toward the North Carolina Advancement School, NCAS Leaders scored 42.2 on the post-test compared to 35.7 for non-leaders, a difference significant at the .10 level. NCAS Leaders scored better (although not significantly so) than Non-Leaders in Paragraph Meaning and Language in post measures of achievement.

These data indicate that the only really significant differences between NCAS Leaders and NCAS Non-leaders at the conclusion of their stay at the Advancement School were the highly positive attitudes of NCAS Leaders toward teachers and the Advancement School. The NCAS Leaders obviously responded favorably to the atmosphere both in the classroom and in the dormitory at the Advancement School, while the NCAS Non-Leaders did not. These favorable attitudes toward the teachers and school were undoubtedly one factor contributing to the selection of the students in the NCAS Leader group.

Participants in the Leadership Training Program. One further area was explored in efforts to determine what accounted for the favorable results obtained for NCAS Leaders. Nine of the boys included in the followup participated in a summer leadership program (described in the

Table 14. COMPARISON OF NCAS LEADERS AND NCAS NON-LEADERS ON POST-TEST VARIABLES

Variables	NCAS Leaders (N=18) $\bar{X}$	S.D.	NCAS Non-Leaders (N= $\bar{X}$	S.D.
Achievement (Raw Scores):				
Paragraph Meaning	27.7	7.8	23.3	8.9
Language	83.4	7.4	76.9	17.1
Arithmetic Computation	11.9	5.4	10.3	4.1
Arithmetic Application	11.2	3.3	9.8	3.5
Study Methods (%ile Scores):				
Attitude	27.5	7.3	24.7	6.2
Mechanics	34.2	5.7	30.1	9.7
Planning	16.6	5.4	13.4	4.1
IAR Scale:				
Positive	13.8	2.0	12.4	2.8
Negative	12.7	2.0	11.9	2.1
Total	26.5	2.6	24.4	3.4
Semantic Differentials:				
Me at School	40.9	5.3	39.4	7.7
Me at Home	43.6	6.7	43.2	6.9
Me at Play	44.4	6.3	42.1	6.8
Teachers	40.6	8.3	33.4	10.2
Rules	38.8	10.6	37.3	10.3
Ideal Self	51.2	3.5	48.2	9.7
N.C. Advancement School	42.2	7.2	35.7	14.2

Appendix) which provided experiences offering development of leadership abilities. Did the summer experiences of these nine boys influence the results on NCAS Leaders in the present study?

The data on the nine boys participating in the summer program were statistically analyzed and compared with the data on remaining nine students in the NCAS Leader group. The results revealed no differences between the two groups. Thus, the summer experience cannot be said to have had any measurable effect on the subsequent school performance of these students.

Related Studies on Students Attending 1968 Spring Term. Two further analyses were made of data obtained through the followup, which provide additional information about the results of work with boys during the 1968 Spring Term.

Gains in Grades. Gains in grades were computed by comparing grades of students for the term prior to entrance at the Advancement School with grades achieved during the one and one-half semesters after leaving the Advancement School. Of the 33 students on whom grades were available (NCAS Leaders and NCAS Non-Leaders combined), 19 were making better grades. Fourteen students were doing the same or less well than they had done prior to their attendance.

Pre-test data obtained on these 33 students upon entrance were analyzed to determine differences existing between gainers and non-gainers. Results are presented in Table 15.

No differences were found in intelligence or achievement levels. The only significant differences were found in the California Psychological Inventory and the Manifest Anxiety Scale.

On the California Psychological Inventory, "gainers" scored higher on measures of Sociability and Sense of Well-Being. On Sociability "gainers" scored 46.4 as compared to 41.4 for "non-gainers," a difference significant at the .09 level. This measure showed that "gainers" entered the Advancement School more confident and outgoing, more competitive, and more original and fluent in thought; whereas "non-gainers" tended to be more detached and passive in attitude while suggestible and overly influenced by others' reactions and opinions.

Table 15. COMPARISON OF "GAINERS" AND "NON-GAINERS" ON PRE-TEST VARIABLES

Variables	"Gainers" (N=19) $\bar{X}$	S.D.	"Non-Gainers" (N=14) $\bar{X}$	S.D.
Achievement (Raw Scores):				
Paragraph Meaning	23.0	11.7	24.1	8.8
Language	84.2	11.6	81.6	8.6
Arithmetic Computation	9.3	3.2	10.6	4.6
Arithmetic Application	9.8	3.9	11.8	3.8
Intelligence (Raw Scores):				
Verbal	45.3	13.0	40.0	7.3
Non-Verbal	40.5	11.0	40.2	8.6
Total	42.8	10.9	39.9	6.5
Study Methods (%ile Scores):				
Attitude	26.4	6.4	25.6	7.0
Mechanics	34.0	7.0	31.6	8.2
Planning	15.8	5.1	15.6	5.0
IAR Scale:				
Positive	12.7	2.4	12.9	2.6
Negative	11.7	1.8	12.4	2.1
Total	24.4	3.7	25.2	3.7
Semantic Differentials:				
Me at School	40.9	6.8	39.4	7.1
Me at Home	43.4	8.6	41.2	7.8
Me at Play	46.4	6.6	47.4	6.4
Teachers	44.6	9.0	41.4	8.5
Rules	42.8	8.2	41.5	9.7
Ideal Self	51.9	4.0	53.8	3.4
N. C. Advancement School	41.4	10.6	44.6	9.5
California Psychological Inventory (T-scores):				
Dominance	41.7	11.4	42.5	8.8
Capacity for Status	38.4	7.2	35.6	7.9
Sociability	46.4	6.4	41.4	9.8
Social Presence	44.8	10.4	40.9	8.0
Self Acceptance	48.9	11.1	50.8	12.2
Sense of Well Being	26.7	17.5	16.8	15.3
Responsibility	31.0	12.6	32.1	9.7
Socialization	38.6	12.1	41.0	10.9
Self Control	38.7	7.4	35.8	11.0
Tolerance	32.0	10.5	27.7	7.8

Table 15. Continued

Variables	"Gainers" (N=19) X̄	S.D.	"Non-Gainers" (N=14) X̄	S.D.
California Psychological Inventory (continued)				
Good Impression	43.1	6.4	40.2	8.8
Communality	29.5	22.8	26.2	23.5
Achievement Via Conformance	33.3	12.4	36.4	12.6
Achievement Via Independence	36.5	8.2	37.7	7.5
Intellectual Efficiency	27.5	13.5	28.4	10.1
Psychological Mindedness	43.3	8.4	42.5	10.2
Flexibility	45.7	12.9	48.0	10.7
Femininity	48.5	9.3	50.4	16.2
Anxiety:	7.1	4.1	9.7	5.0

On the measure of Sense of Well-Being, "gainers" scored 26.7 to 16.8 for "non-gainers" (significant at the .01 level). This measure indicates the degree of the student's ambition, conscientiousness, aggressiveness, and value of work. Underachievers, of course, could be expected to score well below national norms on this particular measure.

The Manifest Anxiety Scale was administered to all Advancement School students to obtain an indication of the degree of anxiety present among underachievers. Analysis of scores of "gainers" and "non-gainers" revealed that "gainers" scored lower on the scale; i.e., "gainers" tended to be less anxious than those students who were "non-gainers."

Further study must be done before it can be determined how these three personality factors are related to academic gains experienced by students.

Several other variables were also analyzed to seek additional information about "gainers" with the following results:

1. No differences existed between "gainers" and "non-gainers" in race, education of father, region of the state, or size of the city from which they came.
2. A difference significant at the .05 level was revealed in family incomes, with "gainers" tending to come from families with incomes of over $4,000, while "non-gainers" tended to come from families with incomes of under $4,000.

Race of Students and Grades. Grade Point Averages for 36 former Advancement School students for the period since their return home were compared with grade point averages of control students during the same period. The two groups were subdivided further by race and mean grade point averages compared. Results are presented in Table 16.

Table 16. Comparison of Grade Point Averages of Negro and White Experimental and Control Students

Group	No.	Mean G.P.A.
Experimental Negro	15	1.92
Experimental White	21	1.35
Control Negro	10	1.81
Control White	26	1.50

Negro students achieved a mean grade point average higher than white students in both experimental and control groups (significant at the .01 level). Grade point average means for NCAS Leaders and Non-Leaders are presented in Table 17.

Table 17. Comparison of Grade Point Averages of Negro and White NCAS Leaders and NCAS Non-Leaders

Group	No.	Mean G.P.A.
NCAS Leaders Negro	9	2.12
NCAS Leaders White	8	1.58
NCAS Non-Leaders Negro	6	1.62
NCAS Non-Leaders White	13	1.23

Grade Point Averages of Negro students remained higher than those of white students, a difference significant at the .01 level. NCAS Negro leaders had higher grade point averages than any group. Perhaps the most interesting finding of this analysis was that Negro Non-Leaders had higher grade point averages than did White Leaders.

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A follow-up study conducted on eighth-grade students who attended the North Carolina Advancement School from January - May 1968, was carried out in May 1969, one year after their return to the public schools.

The study was designed to determine whether those students who had responded to the Advancement School program continued to evidence positive changes.

The experimental group was composed of forty boys, including twenty boys who, at the conclusion of their attendance, were identified by faculty members as having made the most progress during their stay (NCAS Leaders), and twenty boys randomly selected from the forty students not nominated by any faculty member (NCAS Non-Leaders). A control group of forty students was chosen randomly from an original control group of 96 boys who had qualified for admission but were unable to enroll because of space limitations. The sample was therefore composed of the following: twenty NCAS leaders; twenty NCAS non-leaders; and forty control students. All students in the three study groups were interviewed by NCAS staff members and were administered the Mooney Problem Check List and the IAR Scale. The counselor, principal, or teacher of each boy was also interviewed and provided information

about the boy's school performance. Questionnaires were mailed to parents of each boy in the sample to determine the parents' perception of their son's attitudes about school.

Results. The results of this study indicated that those boys identified as NCAS leaders were doing significantly better than the control group or NCAS non-leaders in the following areas:

1. Academic performance as measured by grades. NCAS leaders had mean grade point averages of 1.85 for the first semester and mid-term second semester following their return to the home school, as compared to mean grade point averages of 1.35 for non-leaders and 1.58 for controls.
2. Responsibility for learning (successes.) In this measure, NCAS leaders showed a significant difference in their ability to accept responsibility for their successes when compared with the other two groups.
3. Classroom behavior. On the N.C.A.S. Student Behavior Inventory, NCAS leaders scored significantly better than the other two groups in aggressiveness, passivity, hyperactivity, and total behavior. They also scored somewhat higher than the other two groups in work habits and dependence.

4. Educational Expectations. Nine out of thirteen NCAS leaders responding to the question of future educational plans revealed that they planned to attend college. Both counselors and parents verified the appropriateness of these plans.

In addition, NCAS Leaders performed better in several other areas than did the other two study groups.

1. Responsibility for Learning (Failures). NCAS leaders scored higher than the other two groups in their ability to accept responsibility for failures. In total responsibility for learning, both successes and failures, NCAS leaders scored higher than other students.
2. School Attendance. NCAS leaders attended school more regularly than did the other two study groups.
3. Extra-curricular Activities. NCAS leaders scored slightly higher than the other two groups in the numbers of activities in which they participated.
4. Parental Perception of Attitudes: NCAS leaders were felt by their parents to possess better attitudes toward school as a whole.

Control students scored slightly higher in two areas: numbers of problems checked on the Mooney Problem Check List (Controls had fewer problems marked), and in the category of

anxiety on the NCAS Student Behavior Inventory, where controls exhibited less anxiety than did NCAS leaders or Non-leaders.

Recommendations: As a result of this study, the following recommendations are made:

1. This group of students should be followed throughout their remaining school years to determine their future academic performance, attitudes and behavior. Similar follow-ups should be undertaken at the conclusion of the tenth grade and again at the conclusion of the twelfth grade. These follow-ups should help determine whether current indications of improvement remain or whether those students not yet showing improvements may do so at a later date.
2. The follow-up data on these students should be compared with follow-up data on other groups of students who attended the Advancement School in later terms. Analysis of these data should help determine whether the Advancement School program is more effective with younger underachievers, as is currently assumed on the basis of pre-post testing.
3. Data on the students followed up in the present study should be compared with data obtained in subsequent follow-up studies on other groups to determine what factors are related to positive response to the

Advancement School program. Once factors which are predictors of success have been isolated, then these factors may be utilized to help determine the most appropriate approach to working with certain groups of underachievers. The isolation of these factors may also indicate the need for restructuring the Advancement School program to provide a different approach to those students predicted not to respond to the current approach.

4. Further research should be undertaken to determine to what extent personality factors relate to academic success. Initial indications are that the degree of the student's general anxiety, socialization, and sense of well-being may have a relationship to his academic achievement. These areas of personality, in particular, should be further explored through analyses of data on other groups of underachievers who have attended the Advancement School.
5. The North Carolina Advancement School Student Behavior Inventory should be further refined as an instrument to measure behavior of underachievers. Several significant differences resulted in the comparison of behavior of NCAS Leaders, NCAS Non-Leaders, and control students in the present study. If differences can be

shown to exist between underachievers and the normal school population, then this inventory may provide revealing information about the relationship of behavior to learning. Behavior may also prove to be a predictor of academic success through use of this instrument.

6. The degree to which underachievers accept responsibility for school successes and failures, as measured by the IAR Scale, should continue to be researched by the Advancement School. The results of this measure in the present follow-up study should be compared with results obtained in subsequent pre-post studies and future follow-ups.
7. Further study should be undertaken to determine the effects of the Leadership Training Program undertaken in the summer of 1968. Students who participated in this program should be further followed to determine whether the abilities they were believed to possess may become evident in later school years.

REFERENCE

1. North Carolina Advancement School Research Report, Spring 1968. Winston-Salem, N.C., 1968.

TESTS USED IN STUDY

1. California Psychological Inventory, Palo Alto, California: Consulting Psychologists Press, Inc.

2. Crandall, V.J., W. Katkovsky and S. Preston. "Motivational and Ability Determinants of Young Children's Intellectual Achievement Behaviors," Child Development, 33:643-661, 1962.

3. Levy, N., "A Short Form of the Children's Manifest Anxiety Scale." Child Development, 29:153-154, 1958.

4. Mooney, Ross L., Mooney Problem Check List, New York: Psychological Corporation, 1950.

A P P E N D I X

NORTH CAROLINA ADVANCEMENT SCHOOL
LEADERSHIP TRAINING PROGRAM

A special experimental project was carried out by the North Carolina Advancement School during the summer of 1968 to provide selected boys with experiences aimed at developing leadership abilities. The fourteen students who participated were selected by faculty members from among the eighth-grade boys enrolled in the 1968 Spring Term.

The program was designed around four basic areas:

1. A humanities block designed to give students opportunities to discuss and study leadership characteristics as well as to explore their own role as leaders.
2. Experiences working with younger students in a leadership capacity. The participants served as junior counselors to the rising sixth- and seventh-grade boys attending the eight-weeks summer term.
3. Opportunities to serve as teacher aides to various members of the staff. The boys were allowed to select areas in which they had special skills or interests and to assist teachers in working with younger students.
4. Opportunities to continue study in areas of need and interest, emphasizing an area in which they had particular need for help. This part of the summer program was carried

out under the supervision of faculty members and in some cases involved independent research or study by the boys.

For selection of participants in the leadership training program, criteria were established on the basis of characteristics believed to constitute potential leadership. These criteria were selected on the basis of reports in the research literature on leadership ability. Fourteen tentative criteria were listed and submitted to all members of the Advancement School faculty. Faculty members were asked to rank these fourteen criteria in the order they believed them to be most applicable to the proposed Advancement School project. Following is a list of criteria with the median score computed from the rankings by faculty members:

Tentative Criteria For Selecting Candidates for Summer Leadership Training Program:

8.75	A.	Pursues usual social activities and customs to an acceptable degree (not the kind who lives by himself nor the person who prefers social activities to everything else).
11.33	B.	Upholds his end of conversation (is not a jabberer nor is he reluctant to speak.)
2.67	C.	Displays honesty under usual or ordinary social standards (does not habitually lie, steal, or cheat.)
2.38	D.	Displays confidence in himself in most instances (may be self-conscious on some occasions but not painfully timid or self-conscious).
5.75	E.	Responds appropriately to authority (neither defiant nor entirely resigned to authority).
5.0	F.	Displays flexibility by conforming willingly as necessity arises (not a nonconformist nor is he easily persuaded.)
6.75	G.	Observes general conventions of civility and respect to an acceptable degree (not rude, insulting, insolent.)
7.62	H.	Holds his own among his peers (yields when necessary to the wishes of others.)
10.67	I.	Offers judicious criticism of others when weaknesses or faults are outstanding (is not overly critical nor does he use sarcasm in criticism.)
6.20	J.	Sustains attention (becomes absorbed in what he does and is able to hold attention for reasonably long periods.)
6.0	K.	Exercises care in his thinking (relatively consistent and logical; not slovenly and illogical.)
8.0	L.	Actively engages in mental activity (not mentally lazy and inert.)

7.33 M. Displays curiosity and interest in new things (not unconcerned and indifferent with most issues).

13.75 N. Displays neatness (shows a moderate degree of concern about personal appearance).

From the results of this ranking of tentative criteria, the five criteria listed below were selected as those most pertinent to the selection of students for the leadership training program:

1. Displays confidence in himself in most instances.
2. Displays honesty under usual or ordinary social standards.
3. Displays flexibility by conforming willingly as necessity arises.
4. Responds appropriately to authority.
5. Exercises care in his thinking.

Faculty members were then asked to rank students on the basis of these five criteria only. Again medians were computed and the fourteen students receiving the highest median scores were invited to participate in the leadership training program. If a selected student was unable to participate, the next highest ranking student was chosen.

As observed in the followup study, those boys who participated in the program did not show any measurable changes during their first year home as a direct result of their summer experiences. However, these students will continue to be followed to determine if the program may have had an influence in helping them develop the leadership abilities they exhibited while at the Advancement School.

THE NCAS STUDENT BEHAVIOR INVENTORY

The North Carolina Advancement School has now worked with more than 600 boys, ranging in age from eight to sixteen, who were identified as underachievers in their home schools. Through working with these students, through observation and testing, it became evident that certain behavior characteristics could be said to be common to them. The question was thus raised: Can certain types of behavior be proved unique to underachievers? As a part of its research into the causes and possible remedies of underachievement, behavior has become a subject of intensive study by the Advancement School.

If certain behavioral characteristics can be identified as common to underachievers or prevalent among underachievers in a more extreme degree than in the general school population, then research may answer some far - reaching questions: Is behavior a factor in the etiology of underachievement? If so, can behavioral characteristics be used to identify potential underachievers in order that preventive measures can be utilized? Are these behavioral characteristics the result of underachievement? If so, can the underachiever in the first or second year of school be identified through his behavior traits and then be given remedial treatment to prevent more serious problems in his later school years?

A behavior inventory was designed by the Advancement School based on findings of the school's testing program, observations of counselors and teachers, and incorporating findings from research literature. Further information regarding the development of the inventory is reported in the NCAS Research Report, Fall 1968, Spring 1969. Six different categories of behavior most common to underachievers were identified: dependence, aggressiveness, passivity, anxiety, hyperactivity, and poor work habits. Items descriptive of these types of behavior were randomly placed in the inventory which includes a total of 24 items applicable to students of any grade or age. A copy of the Inventory is included on page 58. A scale was devised which allows a teacher to make the degree to which each item applies to a particular student. Only four items for each of the six categories were used in order that the inventory could be kept brief enough for general use. Following are the items applicable to each of the six areas of behavior:

I. Poor Work Habits

Doesn't do assigned work

Does not bring materials, such as pencil, paper, or books to class.

Slow to complete classwork because he wastes his time

Loses or misplaces materials, work, or books

II. Hyperactivity

Physically restless in class; can't sit still

Is a compulsive talker (feels he must comment on everything, interrupts other, etc.)

Annoys or distracts classmates (interferes with their work, teases them, etc.)

Acts silly or "clowns" to gain attention

III. Anxiety

Becomes tense or nervous when taking tests

Expresses anxiety about whether work is correct (worries about knowing right answers, wants directions repeated, etc.)

Craves adult attention (seeks teacher's approval, wants to sit near teacher, "tattles" on classmates, etc.)

Is picked on by classmates (made fun of, called names, etc.)

IV. Passivity

Is alone, rather than with classmates, on playground, in cafeteria, etc.

Daydreams in class

Does not participate in class discussions or volunteer answers

Shows little initiative; is lazy or sluggish

V. Aggressiveness

Shows disrespect toward teachers, principal, or other adults (Breaks rules, talks back to teacher, etc.)

Is a bully (picks on smaller children, intimidates others, etc.)

Solves conflicts with classmates by physically means

(fighting, wrestling, etc.)

Loses temper easily (doesn't control his anger, impatient, etc.)

VI. Dependence

Requires encouragement or prodding to get work completed.

Gives up when he sees something as more difficult than usual.

Expects teacher to do most of his work for him

Seems emotionally immature (cries easily, is "babyish," etc.)

The inventory is scored by using a number value to indicate the degree marked by the teacher. The most extreme behavior on any item is thus scored 5; least extreme, 1.

Thus far, the behavior inventory has been completed for some 500 applicants and 200 students at the Advancement School, as well as all students involved in the follow-up study. The inventory will also be completed on normal school populations of various grade levels within the near future. An item analysis is being done to further refine the scale. Hopefully when these preliminary steps are completed, this inventory can supply some revealing statistical information about the behavioral characteristics of underachievers.

N. C. ADVANCEMENT SCHOOL
STUDENT BEHAVIOR INVENTORY

Never Applies ——— Always Applies

6. Expresses anxiety about whether work is correct (worries about knowing right answers, wants directions repeated, etc.)

7. Does not participate in class discussions or volunteer answers

8. Requires encouragement or prodding to get work completed

9. Is a bully (picks on smaller children, intimidates others, etc.)

10. Doesn't do assigned work

11. Gives up when he sees something as more difficult than usual.

12. Craves adult attention (seeks teacher's approval, wants to sit near teacher, "tattles" on classmates, etc.)

13. Solves conflicts with classmates by physically fighting

14. Is a compulsive talker (feels he must comment on everything, interrupts others, etc.)

15. Does not bring materials, such as pencil, paper, or books to class

16. Slow to complete classwork because he wastes his time

17. Loses temper easily (doesn't control his anger, impatient, etc.)

18. Expects teacher to do his work for him

19. Seems emotionally immature (cries easily, is "babyish," etc.)

20. Annoys or distracts classmates (interferes with their work, teases them, etc.)

21. Loses or misplaces materials, work or books

22. Is picked on by classmates (made fun of, called names, etc.)

23. Acts silly or "clowns" to gain attention

24. Shows little initiative; is lazy or sluggish

NORTH CAROLINA ADVANCEMENT SCHOOL
STUDENT BEHAVIOR INVENTORY

(To be completed by teacher)

NAME OF STUDENT _____ SCHOOL _____

AGE: YRS. ____ MOS. ____ GRADE _____ RACE____ SCHOOL ADDRESS _____

DATE OF RATING _____ TEACHER_____

INSTRUCTIONS TO TEACHER: This inventory is designed to measure the degree to which certain items descriptive of behavior apply to the student. You are to mark an X at the point on the line which best indicates the student's behavior. Please base your rating on your own experience with this student and compare him with the normal school population of his own age. Use extreme ratings when justified; avoid using the midpoint of the line for every item. Rate each item as quickly as possible, and be sure not to omit any item. The results of this inventory will be used for research purposes only.

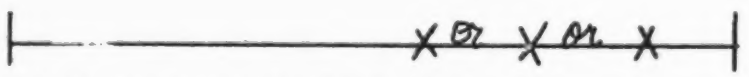
EXAMPLES:

A. Has difficulty expressing himself

If the student never has difficulty expressing himself, mark the line as follows

If the student always has difficulty expressing himself, mark the line as follows

If the student frequently has difficulty expressing himself, mark the line at a point between the midpoint and the extreme right, depending upon the degree of frequency.



YOU MAY MARK THE LINE AT ANY POINT BETWEEN THE TWO EXTREMES.

---

1. Is alone, rather than with classmates, on playground, in cafeteria, etc.

2. Physically restless in class; can't sit still

3. Becomes tense or nervous when taking tests

4. Daydreams in class

5. Shows disrespect toward teachers, principal, or other adults (breaks rules, talks back to teacher, etc.)

Table 18. North Carolina Advancement School Parent Questionnaire

Below is a list of questions about you and your son. Please read each question carefully and check the answer which most nearly describes what you think. Please do not discuss these questions with your son until after you have answered each of them.

1. How does your son feel about going to school?
____ He likes school and enjoys going.
____ He thinks it's all right and doesn't really seem to mind going.
____ He dislikes it and doesn't want to go at all.

2. How does he feel about his teachers?
____ He likes all or most of them.
____ He seems to think that most of them are "o.k."
____ He dislikes most or all of them.

3. How does he feel about homework?
____ He is eager and enjoys doing all of it.
____ He seems to enjoy doing most of it.
____ He doesn't seem to mind it too much.
____ He dislikes doing most of it.
____ He dislikes it all and sometimes refuses to do it.

4. If your son does well on a test at school, how does he explain it?
____ He would probably say that he did well because he he studied for it.
____ He would probably say that he did well because the test was especially easy.

5. If your son does not pass his grade this year, how will he explain it?
____ He will probably say it is because the teachers "had it in for him."
____ He will probably say it is because his work wasn't good enough.

6. What do you plan for your son to do in the future?
____Quit school when he is sixteen so that he can get a job.

____Finish high School.
____Finish high school and attend a technical school.
____Attend college.
____Other _____

Table 19. Form Used in Interviewing School Guidance Counselor.

To be asked of the Guidance Counselor (or other person well-acquainted with the child.)

Interviewer's Name_____

Student's Name _____

Person Interviewed _____

"As explained to you earlier, we are interested in seeing how students who attended the North Carolina Advancement School last spring and those who applied for admission are doing in school."

Has _____ come to you with any problems?

Yes _____

No _____

Has he come voluntarily _____

Or has he been sent? _____

What sort of problems has he discussed?

What future plans do you think would be most appropriate for this child? (Finish high school, attend technical school, college, military service, etc.)

Table 20. Form Used in Obtaining Information on School Progress of Students

To the Guidance Counselor or Principal:

Re: _____

1. Grades for 1968 - 69 school year:

	First Semester	Mid-Term Second Semester
Language Arts	_____	_____
Social Studies	_____	_____
Math	_____	_____
Science	_____	_____
Other: _____	_____	_____
_____	_____	_____

2. Have any standardized tests been administered to this student during the 1968-69 school year? If so, please complete the following:

Name of Test	Form	Date Administered	Converted Score	Norms Used

3. Attendance for 1968-69 school year:

Days absent:	First Semester	Mid-Term Second Semester
Excused	_____	_____
Unexcused	_____	_____

4. Do you know of any critical incidents occuring in the student's life this year (such as a long illness, death of a parent, etc.) which has affected his attendance or behavior in school? If so, please explain:

_____

_____

5. Extra-curricular activities participated in:

_____

_____

6. Please have each of the student's teachers complete one of the enclosed North Carolina Advancement School Student Behavior Inventories.